

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (original): A photo-curable transfer sheet having a photo-curable transfer layer comprising a photo-curable composition, the photo-curable composition being deformable by application of pressure and containing a reactive polymer having a photopolymerizable functional group,

wherein the photo-curable transfer layer shows linearity in relationship between strain $[\gamma]$ (%) and time $[t]$ (second) determined by a creep test using a dynamic viscoelasticity measuring apparatus under the conditions of an ordinary temperature, stress of 50Pa and a time period of 120 seconds, and satisfies a following formula:

$$\log \gamma = a + b \cdot \log t$$

in which "a" is a real number, and "b" is in the range of 0.10 to 0.53.

2. (original): The photo-curable transfer sheet as defined in claim 1, wherein the reactive polymer has a glass transition temperature of not more than 20°C.
3. (original): The photo-curable transfer sheet as defined in claim 1 or 2, wherein the reactive polymer has number average molecular weight of 10,000 to 300,000.

4. (currently amended) The photo-curable transfer sheet as defined in ~~any of claims 1 to 3~~ claim 1, wherein the reactive polymer has weight average molecular weight of 10,000 to 300,000.
5. (currently amended): The photo-curable transfer sheet as defined in ~~any of claims 1 to 4~~ claim 1, wherein the reactive polymer has 1 to 50% by mole of the photopolymerizable functional group.
6. (currently amended): The photo-curable transfer sheet as defined in ~~any of claims 1 to 5~~ claim 1, wherein the photopolymerizable functional group is a (meth)acryloyl group.
7. (currently amended): The photo-curable transfer sheet as defined in ~~any of claims 1 to 6~~ claim 1, wherein the reactive polymer has a functional group having active hydrogen and the photopolymerizable functional group, and the photo-curable composition contains a compound having at least two groups reactive to the functional group having active hydrogen.
8. (original): The photo-curable transfer sheet as defined in claim 7, wherein the functional group having active hydrogen is a hydroxyl group.
9. (original): The photo-curable transfer sheet as defined in claim 7 or 8, wherein the groups reactive to the functional group having active hydrogen are isocyanate groups.
10. (currently amended): The photo-curable transfer sheet as defined in ~~any of claims 1 to 9~~ claim 1, wherein the photo-curable composition further contains a tackifier having solubility parameter (SP value) of not less than 8.50.

11. (currently amended): The photo-curable transfer sheet as defined in ~~any of claims 1 to 10~~ claim 1, wherein the photo-curable composition further contains a transparent fine particle having mean particle size of not more than 300nm.
12. (currently amended): The photo-curable transfer sheet as defined in ~~any of claims 1 to 11~~ claim 1, wherein the photo-curable transfer layer has storage elastic moduli of 1×10^3 to 9×10^4 Pa at frequency of 1Hz and a temperature of 25°C, of not less than 5×10^3 Pa at a frequency of 0.01Hz and a temperature of 25°C, and of not more than 1×10^7 Pa at frequency of 100Hz and a temperature of 25°C.
13. (currently amended): The photo-curable transfer sheet as defined in ~~any of claims 1 to 12~~ claim 1, wherein the photo-curable composition further contains a phenol compound having a substituent or substituents in the amount of 0.01 to 0.3 % by weight.
14. (currently amended): The photo-curable transfer sheet as defined in ~~any of claims 1 to 13~~ claim 1, wherein a surface of a cured layer formed by curing the photo-curable composition has a water contact angle of not less than 60 degrees.
15. (currently amended): The photo-curable transfer sheet as defined in ~~any of claims 1 to 14~~ claim 1, wherein the photo-curable composition contains phosphoric acid (meth)acrylate or derivatives thereof in the amount of 10 to 220ppm.
16. (original): A photo-curable transfer sheet having a photo-curable transfer layer comprising a photo-curable composition, the photo-curable composition being deformable by application of pressure and containing a reactive polymer having a photopolymerizable functional group and a functional group having active hydrogen,

wherein the photo-curable composition contains a compound having at least two groups reactive to the functional group having active hydrogen.

17. (original): A photo-curable transfer sheet having a photo-curable transfer layer comprising a photo-curable composition, the photo-curable composition being deformable by application of pressure and containing a reactive polymer having a photopolymerizable functional group,

wherein the photo-curable composition further contains a tackifier having solubility parameter (SP value) of not less than 8.50.

18. (original): A photo-curable transfer sheet having a photo-curable transfer layer comprising a photo-curable composition, the photo-curable composition being deformable by application of pressure and containing a reactive polymer having a photopolymerizable functional group and a transparent fine particle having mean particle size of not more than 300nm.

19. (original): A photo-curable transfer sheet having a photo-curable transfer layer comprising a photo-curable composition, the photo-curable composition containing a reactive polymer having a photopolymerizable functional group,

wherein the photo-curable transfer layer has storage elastic moduli of 1×10^3 to 9×10^4 Pa at frequency of 1Hz and a temperature of 25°C, of not less than 5×10^3 Pa at a frequency of 0.01Hz and a temperature of 25°C, and of not more than 1×10^7 Pa at frequency of 100Hz and a temperature of 25°C.

20. (original): A photo-curable transfer sheet having a photo-curable transfer layer comprising a photo-curable composition,

the photo-curable composition containing a reactive polymer having a photopolymerizable functional group, and a phenol compound having a substituent or substituents in the amount of 0.01 to 0.3 % by weight.

21. (original): A photo-curable transfer sheet having a photo-curable transfer layer containing a reactive polymer having a photopolymerizable functional group,

wherein a surface of a cured layer formed by curing the photo-curable transfer layer has a water contact angle of not less than 60 degrees.

22. (original): A photo-curable transfer sheet having a photo-curable transfer layer comprising a photo-curable composition, the photo-curable composition containing a reactive polymer having a photopolymerizable functional group and further containing phosphoric acid (meth)acrylate or derivatives thereof in the amount of 10 to 220ppm.

23. (currently amended): The photo-curable transfer sheet as defined in any of claims ~~1 to 22~~ 1 or 16-22, wherein a release sheet is provided on one side or both sides of the photo-curable transfer layer.

24. (original): The photo-curable transfer sheet as defined in claim 23, which is in the form of continuous length, and has the same width as the release sheet.

25. (currently amended): A process for the preparation of an optical information recording medium comprising of the steps (2) to (4):

a step (2) of removing the release sheet on one side of the photo-curable transfer sheet as defined in claim 23-~~or~~ 24,

a step (3) of placing the photo-curable transfer sheet on an uneven surface of a reflective layer, such that the photo-curable transfer layer is in contact with the uneven surface, the reflective layer being formed on an uneven surface of a substrate having the uneven surface of recorded pits and/or grooves, and depressing the photo-curable transfer sheet and the substrate to form a laminate in which the one side of the photo-curable transfer sheet adheres closely to the uneven surface of the reflective layer, and

a step (4) of removing the release sheet on the other side of the photo-curable transfer layer of the laminate.

26. (original): The process for the preparation of an optical information recording medium as defined in claim 25,

wherein prior to the step (2), the following step (1) is performed:

a step (1) of punching out a disc from the photo-curable transfer sheet, or

a step (1) of punching out a disc comprising the photo-curable transfer layer and the release sheet on one side of the photo-curable transfer sheet from the photo-curable transfer sheet without punching out the other side release sheet.

27. (currently amended): The process for the preparation of an optical information recording medium as defined in claim 25-~~or~~ 26,

wherein after the step (4), the following steps (5) and (6) are performed:

a step (5) of placing an uneven surface of a stamper having the uneven surface of recorded pits and/or grooves on the surface having no release sheet of the laminate, and depressing the photo-curable transfer sheet and the stamper to form a laminate in which the surface of the photo-curable transfer layer adheres closely to the uneven surface of the stamper, and

a step (6) of exposing the laminate having the stamper to ultraviolet rays to cure the photo-curable transfer layer, and removing the stamper from the laminate to form an uneven surface on the photo-curable transfer layer.

28. (original): The process for the preparation of an optical information recording medium as defined in claim 27,

wherein after steps (5) and (6), the following step (7) is performed:

a step (7) of forming a reflective layer on the uneven surface of the photo-curable transfer layer.

29. (currently amended): An optical information recording medium obtainable by the process as defined in ~~any of claims 25 to 28~~ claim 25.

30. (currently amended): An optical information recording medium comprising a cured layer of a photo-curable composition having an uneven surface of recorded pits and/or grooves and a reflective layer of a silver or silver alloy formed on the uneven surface,

wherein the photo-curable composition is the composition as defined in any of claims ~~1 to 22~~ 1 or 16-22.

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PRELIMINARY AMENDMENT

31. (currently amended): An optical information recording medium comprising an optical information recording substrate having an uneven surface of recorded pits and/or grooves, a reflective layer of a silver, silver alloy or silver compound formed on the uneven surface, and a cured layer of a photo-curable composition in close contact with the uneven surface of the reflective layer,

wherein the photo-curable composition is the composition as defined in any of claims ~~1 to 22~~ 1 or 16-22.